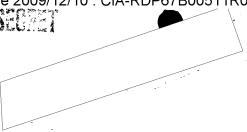
Sanitized Copy Approved for Release 2009/12/10 : CIA-RDP67B00511R000100260003-0



6 May 1960

MEMORANDUM FOR RECORD

ILLEGIB

SUBJECT: Trip Report to HRB

The undersigned accompanied by Commander Walter Crandall, Navy Bu Weaps, visited HRB Singer on 4 May 1960. The purpose of this visit was to review progress that had been made on the VHF and S-band pan-scope equipment for Model 8X. Good progress had been made on the VHF system and it was ready for demonstration. This system was very carefully checked by the undersigned and was found to have the following technical capabilities: For CW signals it had a tangential sensitivity of -108 dbm over the frequency range 58-90 Mc/s. At a signal level of -90 dbm a little brother appeared adjacent to the signal at 72 Mc/s. At a signal level of -80 dbm the little brother remained over the frequency range of 60-80 Mc/s. At a signal level of -75 dbm the little brother trailed the main signal by 30 Mc/s. At a signal level of -70 dbm the little brother appeared on either side of the main signal. At a signal level of -65 dbm the little brother effect was so severe as to limit the usefulness of the pan display. At a signal level of -60 dbm the pan-scope was completely saturated by little brother type signals. Perhaps more meaningfull are the pulse characteristics of the VHF pan-scope. These are listed below: The minimum useful range of the scope was found to be from a signal level of a -95 dbm to a signal level greater than a -50 dbm. A 48 channel type telemetry sync signal was used for these tests. A later discussion disclosed that an IF bandwith of only 350-400 Kc/s was being used along with a linear detector and a video amplifier with a bandwidth of approximately 175 Kc/s. There was some doubt in the mind of the undersigned that this limited bandwidth was really justified and the HRB engineers were asked to re-check the system to determine whether if indeed this narrow bandwidth was the optimum for recognition of the presence of telemetry type signals.

25 YEAR RE-REVIEW



3. The super sensitive "auto correlation techniques" circuitry was demonstrated and it appeared to give approximately a 10 db increase in system sensitivity. The following instructions were left for the use of this system: The 55 Kc/s tone which was to be amplitude modulated by the output of the correlated data channel signal was to be set at a signal off level of 6 db above tape noise. The amplitude of this 55 Kc/s tone was to be compressed so that the total dynamic range of the system (approximately 40 db) would be compressed to the 21 db of dynamic range left on the tape above the 6 db level.

25X1